Position Description

Classification Guide: Equipment Development Grade Evaluation Guide Part I, Product Development Engineering

Factor I - Assignment Characteristics:

The incumbent serves as computer engineer, technical advisor, and acknowledged expert on web systems for the Information and Visioning Branch (IVB). Web systems encompass the design, development, and deployment of hardware and software to support applications that are enabled by the web. These systems provide unique capabilities in intranet, extranet, and Internet environments. The specific job functions include:

Conceives, advocates, plans, conducts, and manages work in areas involving the implementation of pioneering web technologies where little or no previous experience factors for guidance exist and exercises technical responsibility for continuation of the work.

Develops new methods and techniques that provide significant technical and operational impact for Agency-level projects and demonstrates the effectiveness of new concepts and ideas for achieving particular mission goals and objectives.

Manages advanced research and development projects to ensure the timely and successful completion of projects where the incumbent analyzes and evaluates complex projects, contractors' proposals, and proposed policies for merit and alternate approaches; provides expert direction based upon technical, scientific, cost, and other considerations.

Formulates new project objectives and defines requirements to meet these objectives at the Center and Agency level.

Leads the technical work on Agency projects and projects involving multiple government agencies, industry, and academia; reviews and assesses progress, resolves technical issues and seeks methods for overcoming actual and potential problems.

Leads the technical work on Agency-level teams and committees where unique mastery of advanced theory, principles, techniques, and practices of web systems engineering is required.

Reviews technical literature, publications, reports, and policies; evaluates trends and identifies promising approaches for achieving significant advancements in operational and mission capabilities; proposes and leads the incorporation of approved new technology via Center, Agency, and intra-Agency teams.

Maintains a working knowledge of related fields such as digital/analog video, multimedia, systems administration, networking, and system security, in order to evaluate projects from a broad perspective.

Factor II - Level of Responsibility:

The incumbent independently plans, manages, and carries out project activities. The supervisor sets the overall objectives and resources available. Decisions, recommendations and findings of the incumbent are considered technically authoritative and are accepted as final by Agency level managers. For example, his participation in the NASA Knowledge Management Team and the STI program influenced Agency level decisions for work in that area. The incumbent plans and accomplishes work assignments within the framework of mission objectives, time, staff and funding limitations. Completed work is only reviewed for adherence to policy, fulfillment of program objectives and impact on overall Agency programs.

Guidelines include Agency regulations and policy, guide specifications, technical manuals, and established standards. These guidelines are rarely adequate for solving the complex and unusual engineering problems with which the employee is faced, thus the incumbent exercises judgment and ingenuity in extending existing methods or developing new ones. He applies a high degree of originality and technical judgment to complete assigned projects. Techniques and processes developed by the incumbent are considered technically authoritative and are used to guide others in the field.

Because the incumbent works in areas where little precedent or guidance exists, assignments routinely involve solving major problems in a broad range of activities and highly specialized web systems. The incumbent's responsibilities include exploring and evaluating new technology and establishing the feasibility of new concepts. The incumbent makes decisions in solving highly complex technical and programmatic issues. The work involves many areas of uncertainty requiring new developments to extend beyond the current state of the art. The incumbent analyzes unique problems, and develops new and improved techniques and methods. In addition, the incumbent provides advice and guidance to Agency managers on matters of such difficulty that leading experts are not in complete agreement as to the proper approach or probable outcome of significant and far-reaching development efforts.

The incumbent leads and directs pioneering development efforts involving matters of exceptional importance having far-reaching consequences to the Agency. The incumbent evaluates the effect of significant technological changes on Agency policies, mission objectives, requirements and goals. The work of the incumbent influences both the Agency programs and the work of technical specialists within and outside the Agency.

Employee Accomplishment Record

1. Name:

4. Significant Accomplishments

2. Education

Bachelor of Science in Mathematics, The College of Virginia, 1981
Masters of Science in Computer Science, The College of Virginia, 1989

3. Relevant Professional Training Received

WebObjects (2000)
Introduction to Java Programming (1997) Advanced Java Programming (1997) Object Oriented Programming in C++ (1994) Source Evaluation Board (1993)
Digital Image Processing
(1990) Simulation (1990)
Formal Methods of Software Engineering
(1990) Analysis of Algorithms (1990)
Theory of Programming Languages
(1990) Theory of Computation (1990)
Theory of Operating Systems (1990)

Supporting Documentation for each accomplishment

Each contribution should identify supporting documentation. A maximum of three evidences or exhibits may be used to document each contribution. It is not necessary to use the maximum number of allowed exhibits. It is more important to carefully select those most effective in supporting your contributions. Supporting documents must be referenced to the specific contribution. Full credit for a contribution cannot be given when the contribution is documented solely by the